

Notice of Allowability

Application No.

10/534,492

Applicant(s)

MAESHIMA ET AL.

Examiner

Kyoung Lee

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/10/2005.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 5/10/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


MICHAEL LEBENTRITT
SUPERVISORY PATENT EXAMINER

DETAILED ACTION
REASON FOR ALLOWENCE

Claims 1-12 are allowed.

The following is an examiner's statement of reasons for allowance: Claim 1 is allowable because of the prior art, either singly or in combination, fails to anticipate or render obvious, the method, including step for finding a first value by calculating an energy which represents a total energy of the association complex formed of the cation and the anion while the association complex is in a stable state; a third step for finding a second value by calculating the total energy of a radical species derived from one-electron reduction of the association complex, and a third value by calculating the total energies of radical species derived from one-electron reduction of the association complex; a fourth step for finding a fourth value by subtracting the second value from the first value, and finding a fifth value by subtracting the first value from the third value; a fifth step for finding a sixth value by subtracting the fourth value from the fifth value; and a sixth step for determining whether or not the sixth value exceeds a given target value, wherein the second process sets the respective surface areas of the positive electrode and the negative electrode based on the sixth value of the electrolyte selected. These features in combination with the other elements of the claim are neither disclosed nor suggested by the prior art of record.

The following is an examiner's statement of reasons for allowance: Claim 12 is allowable because of the prior art, either singly or in combination, fails to anticipate or

render obvious, the method, including step for finding a plurality of first values by calculating respective energies state which represents total energies of the association complexes, the cations or the anions individually while they are in a stable state; finding a plurality of second values by calculating the total energies of radical species derived from one-electron reduction of the association complexes, the cation and the anion, and a plurality of third values by calculating the total energies of radical species derived from one-electron oxidization of the association complex, the cation and the anion; finding a plurality of fourth values by subtracting the second value from the first value of the plurality of different association complexes, the cation and the anion individually, and finding a plurality of fifth values by subtracting the first value from the third value of the plurality of different association complexes, the cation and the anion individually; selecting a maximum fourth value from among the fourth values of the plurality of different association complexes, the cation and the anion individually, and selecting a minimum fifth value from among the fifth values of the plurality of different association complexes, the cation and the anion individually, and subtracting the maximum fourth value from the minimum fifth value for finding a sixth value. These features in combination with the other elements of the claim are neither disclosed nor suggested by the prior art of record.

Claims 2-11 depend from claim 1 so they are allowable for the same reason.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyoung Lee whose telephone number is (571) 272-1982. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KL 4/23/07


MICHAEL LEBENTRITT
SUPERVISORY PATENT EXAMINER